FARM AND GARDEN.

MATTERS OF INTEREST TO AGRICULTURISTS.

Some Up-to-Date Hints About Cultivation of the Soil and Yields Thereof—Horticulture, Viticulture and Floriculture.

Horticultural Observations.

(From the Farmers' Review.)

As to the cultivation of orchards no general rule can be laid down. We, in common with others, advocate the cultivation of orchards, but at the same time we recognize that there are some orchards that should not be cultivated. Those are the ones that are on very rich ground. This is especially the case with young and growing orchards. There is a rate of growth that should not be exceeded. In very rich ground trees often make such rapid growth that they are injured. In such cases we certainly would not urge cultivation till the trees come into bearing and begin to draw heavily on the fertility of the soil.

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We would like to hear from our readers as to the best distance apart for the planting of apple trees. While this question has been before the country for a long time, it is still unsettled. This is due largely to the fact that it has been supposedly settled a number of times, and each time it has taken several years to find out that the settlement was not conclusive. A dozen years ago it was believed by some of our progressive orchardists that the only way to do was to plant the trees about twice as thick as they should ultimately stand and then cut out the alternate rows a few years after the trees had come into bearing. The trees were planted about a rod apart and in some cases closer together. They grew and began to bear fruit. They developed till their limbs began to intertwine and the owner recognized the fact that the time had come to do the thinning out. Did he do it? Not at all, in most cases. He hadn't the heart to cut down the large fine trees, though his intelligence told him it should be done. The result was ultimately an orchard gone more to wood than to fruit. Now horticultural scientists are urging the dropping of the system, for it has become to be a generally accepted truth that if trees are planted too closely in the first place they are likely to stand that way.

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The man that buys fruit trees to put into his orchard should inform himself of the nursery conditions under which the trees were grown. The nature of the soil in which they were started and made their first few years of growth should not be far different from the nature of the soil in which they are subsequently to grow. If the trees have been started in a very rich soil with an abundant supply of moisture they will receive a check that will result in a permanent stunting. Without doubt this is the hidden cause of the failure of many an orchard. It is more than likely to be the case when trees are brought from very distant places, say a thousand miles or so away. It has been thought that the failure of so many trees thus obtained was due to some hidden quality in the climate, but it appears to the writer to be more reasonable to assume that the difference in soil conditions largely accounted for the failures.

Covering Strawberry Beds.

From Farmers' Review: As soon as the ground freezes hard enough to bear a wagon and team, wheat straw should be hauled and placed over the strawberry bed—4 to 6 inches deep between the rows and 1 inch over the rows. If care is taken to make the covering thin enough over the plants they will grow through and above it the following spring. A few years ago when the wheat was threshed with the old-fashioned separator, the straw was fairly free from grains of wheat and chess ("cheat") and this was the best method. Now, when the wheat is threshed with a "blow stacker" the grains of chess and light grains of wheat are blown out with the straw. When this straw is used, the entire strawberry bed will be occupied by a dense growth of this chess and wheat which ruins the strawberries. To prevent this, old blackened straw, in which all seeds are dead, may be used. But this must be hauled before it freezes into solid lumps. It may be placed in a narrow ridge between the rows and afterwards, when the ground freezes, be scattered as previously described. Oat straw is a dangerous covering to use. Before spring, it is liable to cement itself together and smother the plants. I have grown cow peas between the strawberry rows. Their dense late summer growth smothers and weakens the plants and when freezing begins the cow pea foliage disappears leaving the sickly plants without protection. I have grown oats between the strawberry rows. The oats after freezing fall down and make a nice covering. But while they were growing they robbed the strawberry plants of light, moisture and air and weakened them so badly that they were not worth covering. It is not the proper thing to grow cow peas or oats between strawberry rows to mulch them for winter. I plan to experiment with another material for winter covering, but it is premature to describe it now.—L. H. Callaway, Morgan county, Illinois.

Kafir Corn and Alfalfa as Hog Feed.

At the Kansas Experiment Station ten hogs fed Kafir-corn meal and whole alfalfa hay gained an average of 90.9 pounds each in nine weeks, while those having Kafir-corn meal alone gained an average of 52.4 pounds each, an increase of over seventy-three per cent, from feeding the hay. The hogs fed hay ate more grain and gained more for each bushel eaten. The gains per bushel of feed were:

Kafir-corn meal dry and 7.83 pounds alfalfa hay .....10.88 lbs.
Kafir-corn meal dry alone... 7.48 lbs.

This shows a gain from the hogs of 868 pounds per ton of alfalfa hay fed. With hogs at three cents per pound live weight, the hay fed the hogs made a return of $26.04 per ton; and with hogs at four cents per pound live weight, the hay returned $34.72 per ton. These results are not due to the feeding value of the alfalfa alone, but also to its influence in aiding hogs to better digest the Kafir-corn. The alfalfa also gave variety to the ration, making it more appetizing and inducing the hogs to eat more grain. Wetting the Kafir-corn meal made a saving of nearly eight per cent over feeding it dry. Grinding the Kafir-corn caused a loss of over fourteen per cent. Soy-bean meal produced even better results than the alfalfa hay. The hogs fed Kafir-corn meal four-fifths, soy-bean meal one-fifth, gained 97.8 pounds, while those fed on Kafir-corn meal alone gained 52.4 pounds, an increase of over 86½ per cent from feeding the beans. The hogs fed the soy-bean meal required 468 pounds of grain for 100 pounds of gain, while those having Kafir-corn meal alone required 749 pounds of grain, a saving of over thirty-seven per cent in amount of feed needed.

Provision for Agriculture at the St. Louis Exposition.

The Agricultural Building for the Louisiana Purchase Exposition will be 2,000 feet long and 700 feet wide, containing an area of 1,400,000 square feet, or about 32 acres. Any person can best realize what these dimensions mean by finding a field of 32 acres and walking around or across it. Allowing two square fee. for each person, 700,000 people could stand under this roof. An army of 50,000 men could assemble and go through its evolutions with freedom within this space. Its outside walls will measure 120 feet more than a mile. It will contain about 100,000,000 cubic feet of space, and the area of the floor space is sufficient for 4,666 exhibitors, allowing to each a space of 10x20 feet and a space of 10x10 to the center of the aisle, or 300 square feet in all.

The division of Agriculture will be the most complete and comprehensive ever presented, treating broadly of the science and principles of agriculture, farms, buildings, tools and machinery, the culture of cereals, grasses and forage plants, the culture of tobacco and textile plants, the vine and its products, economic horticulture, having special reference to vegetables and fruits, recreative horticulture, including landscape gardening, floriculture and window gardening, domesticated animals, stock-raising, the dairy industry, wool growing and the minor animal industries.

Pine Apple Producing Regions.

The flavor of the pineapple is so agreeable that no one has to acquire a taste for it. Pineapples are on the market throughout the year, but those sold at other times than during the main crop season are too high priced a luxury for the average man. The main shipping season is from the middle of April to the middle of July. The area in the United States adapted to their cultivation is considerable and can be greatly extended. The largest tract of pineapple land is in Florida. Pineapples can also be produced profitably on some land in southern California. Although all of Porto Rico and the Hawaiian Islands are free from frost, the soil and climate are not uniformly adapted to their production. There is more land in the Philippines adapted to the production of pineapples than will be utilized for several generations. The pineapple supply of the United States is contributed to by Porto Rico, the Bahama Islands, Jamaica, San Salvador and Trinidad.

The World's Wheat Crop.

Several foreign estimates on the world's wheat crop of 1901 place it at about 2,700,000 bushels. One of the estimates is by the Hungarian department of agriculture. Some of the principal items of the estimate in bushels follow: United States, 652,000,000; Canada, 93,000,000; South America, 93,000,000; Great Britain and Ireland, 55,000,000; France, 283,000,000; Spain, 110,000,000; Italy, 122,000,000; Germany, 95,000,000; Austria, 43,000,000; Hungary, 138,000,000; Roumania, 69,000,000; Turkey, 70,000,000; Russia, 417,000,000; India, 249,000,000; Africa, 51,000,000; Australasia, 59,000,000.

Cost of Raising Wheat.

From Farmers' Review: I wish to call to your attention a reference found in the Year Book of the Department of Agriculture for 1899. On page 316 you will find it stated that the improvement in methods has reduced the cost of human and animal labor in producing a bushel of wheat from four to one cent per bushel. On page 332 you will find it stated that the time required to produce a bushel of wheat is on an average of ten minutes and at a cost of 3½ cents per bushel for human labor. You will observe that these two statements do not agree very well, since in one case they state one cent per bushel for human and animal labor and in the other case 3 1-3 cents per bushel for human labor. However, I think this slight discrepancy is of very small importance, since they both to my mind are silly. By referring to page 760 of the same book you will find they state the average bushels per acre to be 12 3-10 for the year 1899. I submit that neither 12 3-10 cents per acre nor 41 cents per acre, as in his second statement on page 352, is anywhere in the neighborhood of correct, as neither amount will pay the man for plowing the ground, to say nothing of other necessary labor.

I notice in the forepart of the book here referred to that it was expected to distribute these books at the Paris Exposition. It is my opinion that it is very unfortunate to send out unreliable information to foreign countries, and almost equally so to our own people, and I am very much surprised that the Department of Agriculture would permit such imaginative statements to be made. After referring to the same, I would be pleased to have your opinion of the statements.—Thomas Penrose, Pennsylvania.

The Farmers' Review agrees with Mr. Penrose that the figures published by the Year Book as quoted by Mr. Penrose are utterly absurd. Moreover, it is evident that the deductions were made for the purpose of "making a case." They are certainly not a credit to the Department of Agriculture. In the Year Book of 1893 was published a table of the cost of producing wheat in very State of the Union, and for the country as a whole. This table was headed "Estimated cost of the principal items and total cost in the production of wheat and corn by States per acre for 1893." Under the headline was this legend: "Consolidated from returns from over 4,000 experts." The general average cost per acre for the country was as follows:

Rent of land	$ 2.75
Manure	2.34
Preparing ground	1.85
Seed	.87
Sowing	.35
Harvesting	1.17
Threshing	1.13
Housing	.33
Marketing	.69
Total	$11.48

The average amount of seed used per acre was 1.4 bushels.

The yield of wheat for 1893 was 396,131,725 bushels, grown on 34,629,418 acres of land. The average yield per acre was about 11.50 bushels, making the cost of growing a bushel of wheat that year about $1.00. In the figures of cost per acre, labor is comprised in the items preparing ground, sowing, harvesting, threshing, housing, marketing. The amount thus paid for labor is $5.52, or nearly 55 cents per bushel for the year 1893. About one-half the cost of raising wheat is in the labor. The cost per acre of raising wheat varies little from year to year.

To Increase the Use of Wool.

The legislative committee of the National Live Stock Association has prepared a bill providing for the inspection of woolen goods and shoddy and for the proper stamping of the same. Congress will be asked to pass it at its next session. By the provisions of this bill all manufacturers of goods or fabrics of any kind whatsoever made in imitation of woolen goods or fabrics, or goods which when so made are calculated or intended to be sold as woolens or woolen goods, not made wholly of new or unused sheep's wool, shall so mark, label or tag such goods as that they may be readily distinguished from genuine wools. That such mark, label or tag shall be so attached to such goods or fabrics as that it cannot be detached except by design; and such label shall accurately state in plain printed letters and figures the constituent fibers or other materials or substances of which it is composed, or the relative portion or per cent of each. Provision is also made for heavy fines for the manufacturers that evade the law and also for all tailors and retailers that handle without marks goods requiring marking. Were such a law passed, its vigorous enforcement would be equally beneficial to the purchasers of clothing and to the producers of wool.

It is a well-established fact that the life work of plants is to make the mineral wealth of the earth fitted for the use of animals and man.

A thankful heart is not only the greatest virtue but the parent of all other virtues.

The Fighting Ninth

Dramatic History of a Famous Regiment

Well does that regiment which has recently passed through such trying experiences on the island of Samar deserve the appellation of the "Fighting Ninth." For over 100 years this gallant command has fought and bled and died for the honor of our flag in any climes and countries. Since the outbreak of the Spanish-American war the regiment has been constantly in active service, from the West Indies to the far-off Orient.

The Cuban Campaign.

It was in the spring of '98 that the Ninth left its barracks in the various parts of New York state and mobilized

COL. LISCUM,

at Tampa, Fla., for its campaign against the Spaniards in Cuba. Among the first to arrive in the island, the regiment formed the wedge which opened a way to the interior and tenaciously held its ground while the other regiments prepared for the battle of El Caney. Old Indian fighters, the veteran members of the Ninth were soon in condition at this style of fighting, and the doughty Spaniards marveled as that steady line of blue closed about them and they felt themselves in the iron grasp of men who never knew fatigue, and who day after day kept up a steady advance until the Stars and Stripes swept over El Caney and Santiago.

LIEUT-COL. E. P. EWERS.

Who commanded the Ninth during the greater part of the fighting at El Caney.

At El Caney the Ninth was in the Third Brigade, under General Wikoff. When the fighting commenced the regiment was held back to clear the Spaniards from the heights of El Pozo. This accomplished, the order to advance was given, and the Ninth, in column of fours, swung along a narrow road to the scene of battle. This was one of the most trying moments in the history of the command. From both sides of the road came a galling fire from Spanish sharpshooters. But the steady tramp, tramp never wavered, save when the low order of an officer caused a rank to open to pass over the stalwart form of a man in blue who lay face forward in the dust of the Cuban roadway. Not till the order to charge came did those stern, bronzed men seem to awaken to life to sweep like an avalanche over El Caney. During the greater part of this engagement, Lieut. Col. E. P. Ewers was in command.

When Santiago had surrendered the men of the Ninth were obtaining a breathing spell. They were placed in charge of that city. Then came the yellow fever, which decimated its ranks and eventually caused the War Department to order the regiment to its home station in order that the men might recuperate from the debilitating effects of a tropical campaign. The rest was a brief one, however, as the regiment was soon ordered to the Philippines, where it participated in the campaigns against the rebellious Filipinos. Then came the trouble in China and, of course, the Ninth was called upon to proceed against the Boxers. It was in China that the Ninth

Won World-Wide Fame.

It was the first chance that foreigners had of seeing American troops in action, and the coolness, discipline and bravery of the latter, while under a withering fire, commanded the enthusiastic admiration of every European officer.

On July 13, 1900, the Ninth distinguished itself at the battle of Tein-Tsin. At one stage of the attack on the city it became necessary to land troops inside of a mud wall. To reach this wall the men were obliged to pass through a gateway, on which was concentrated the fire of 3,000 rifles. Brave Col. Liscum gave the order to advance and the allied forces were dazed at the manuevers of the men of the Ninth. Across the field flashed the long line of blue on a double-quick, the officers laconically repeating the march order of step, step, as though the men were on dress parade. The regiment made the gate, passed through and deployed along the walls about the city. They were subjected, besides the fire from the loopholes in the walls of the city, to a fierce fire from a line of fortified houses on their flank. The Ninth, supported by a detachment of American marines, charged into the flank fire with rushes. Col. Liscum meant to capture the houses and then flank the fire from the city walls. Coolly the men of the Ninth wormed along over the marshy ground, until but 30 yards separated them from the mud houses. The men were smiling grimly now as they worked their Krags like gatling guns and the almond-eyed warriors in the mud huts marveled as did the Spaniards as that line of blue closed about them. And then came a disastrous occurrence. The color bearer had fallen and Col. Liscum, snatching up the colors, walked up and down the line, guiding his men.

"Lie down, colonel," repeatedly begged his officers, but the veteran smiled and shook his head. Just before the next advance the brave officer pitched forward, mortally wounded.

"Don't retreat, keep on firing," was his last injunction. It was at noon that their colonel fell and until nightfall the men of the Ninth lay under a scorching sun and the deadly fire of the enemy, without one round of ammunition, but still scorning to retreat. At night they retreated, taking their wounded. Their casualties were 91 men and 5 officers out of 426 men engaged.

In the subsequent stirring events in China, which embraced the memorable march on Pekin, the Ninth had its full share. It was among the first regiments to rush the wall of the Chinese capital and one company—B—is still on duty at Pekin.

Massacres Which Shocked the World.

When the Ninth returned from China, covered with glory, it looked as though it would enjoy a well earned rest at its station in the Island of Samar, in the Philippines. Of course the natives of that island were unruly